Interoperability in Public Safety Systems

Emerging Technologies

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ArdentMC support to FRG
NIEM / EDXL & FRESH Router

- NIEM EMLC & EDXL are data standard specifications that allow for data to be delivered and understood across organizations.

- NIEM EMLC & EDXL support resource management throughout the Mutual Aid timeline by providing first responders with the information they require when they require it.

- The FRESH Router provides a message routing platform that utilizes NIEM EMLC & EDXL that enables sharing and viewing of information without the restrictions of proprietary applications or interfaces.

- NIEM EMLC and FRESH support USNG.
EDXL-DE and NIEM EMLC

**EDXL-DE**
- Container for all messages
- Provides routing information
- OASIS approved standard
- Provides mechanism for standardized metadata (vocabulary / typing)

**NIEM EMLC**
- One of many payloads for EDXL-DE
- Provides incident, resource, resource group, and infrastructure information
- Draft NIEM IEPD
NIEM EMLC Approach

- Develop a common **base class**, apply the software engineering concepts of **encapsulation, polymorphism, and loose coupling** to provide a **simple, extensible, and hierarchical** data model.

- Base class contains very little, but offers the most critical and common elements:
  - What – Object type information – Resource, Observation, Tasking
  - Where – Geospatial information
  - When – Interval of time
  - Extension – Embeds the next level of detail
FRESH SYSTEM OVERVIEW

Source Database

Poller reads from source database

Poller with FRESH Plugin Service and Plugin Library

Data is structured into DE message by FRESH Plugin Library

FRESH Router with FRESH API, Database, Federation Service and GeoServer

DE messages is sent through FRESH router

FRESH Database

Message is stored and sent to destination systems

Destination System

Destination System

Destination System
The NIEM EMLC / EDXL provides a standard data structure, lexicon, and vocabulary for sharing emergency management data between disparate systems. Adoption of this data standard will allow for greater interoperability and information sharing between emergency management IT systems.

The FRESH Router will provide an open source toolset, API, and SDK to provide a platform for cross-organizational information sharing. This will enable more stakeholder IT systems and stakeholders to have the information they need in order to increase Situational Awareness and impact the Mutual Aid environment.

What is your agency/organization vision for how your MA Technology works with other systems?
DEMO